

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

In re INDYMAC MORTGAGE-BACKED SECURITIES LITIGATION
This Document Relates To: ALL ACTIONS

Master Docket No. 09-Civ.-04583 (LAK)
ECF CASE

**EXPERT REPORT OF
PROFESSOR STEVEN P. FEINSTEIN, PH.D., CFA
DECEMBER 10, 2010**

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SCOPE OF PROJECT AND REPORT

1. I was asked by Berman DeValerio, counsel for the Plaintiffs, to determine if information about the underwriting process purportedly used in originating and pooling the mortgage loans serving as collateral underlying certain IndyMac certificates (the “Certificates”) was information that bears on the valuation of the Certificates and that a reasonable investor would consider important when making an investment decision about the Certificates.
2. I was asked to determine whether the allegedly untrue description of the underwriting process would alter the mix of information relevant for valuing all credit tranches of the Certificates.
3. I was also asked to assess whether the proposed Class comprises numerous members who purchased or otherwise acquired the Certificates in the course of the respective offerings.
4. Finally, I was asked to determine and explain how damages suffered by the Plaintiffs and Class can be measured.
5. This report presents my methodology, findings, and conclusions.
6. Exhibit-1 lists the data and documents I reviewed and relied upon in the course of this engagement.

CREDENTIALS

7. I, Steven P. Feinstein, am an Associate Professor of Finance at Babson College, and the Managing Principal of Crowninshield Financial Research, a financial economics consulting firm.
8. I have a Ph.D. in Economics from Yale University, a Master of Philosophy degree in Economics from Yale University, a Master of Arts in Economics from Yale University, and a Bachelor of Arts degree in Economics from Pomona College. I also hold the Chartered Financial Analyst (“CFA”) designation, granted by the CFA Institute.
9. At Babson College I have taught undergraduate and MBA level courses in Valuation, Investments, Equity Analysis, Fixed Income Analysis, Financial Management, Risk Management, and Quantitative Methods. I have also taught executive courses on investments and corporate financial management for numerous corporations. Other courses I have taught are listed in my curriculum vitae, which is attached as Exhibit-2.

10. At Babson College, I have held the Chair in Applied Investments and served as the Director of the Stephen D. Cutler Investment Management Center, a research and education center dedicated to the study and teaching of investments and capital markets.
11. Prior to my joining the faculty at Babson College, I taught finance at Boston University. Prior to that I was an Economist at the Federal Reserve Bank of Atlanta where my primary responsibilities were to monitor financial markets, analyze proposed regulation, and advise the Bank President in preparation for his participation in meetings of the Federal Open Market Committee – the government body responsible for monetary policy in the United States.
12. I have published extensively in the field of finance. My finance articles have appeared in *The Journal of Forensic Economics*, *Atlanta Federal Reserve Bank Economic Review*, *Derivatives Quarterly*, *Derivatives Weekly*, *The Engineering Economist*, *The Journal of Risk*, *The American Bankruptcy Institute Journal*, *The Journal of Financial Planning*, *Risk Management*, and *Primus*. A recent article has been accepted for publication and is forthcoming in *Managerial Finance*. I am the author of *Finance and Accounting for Project Management*, published by the American Management Association. I wrote two chapters in the book *The Portable MBA in Finance and Accounting* – one on corporate financial planning and the other on risk management. I have presented research at the annual conventions of the American Finance Association, the Academy of Financial Services, the Multinational Finance Society, the Financial Management Association, and the International Conference on Applied Business Research. Co-authored papers of mine have been presented at the Eastern Finance Association meetings and the Midwestern Finance Association meetings.
13. I have been selected to review papers for numerous finance journals and conferences, and I have reviewed finance textbook manuscripts for Prentice-Hall and Southwestern Publishing. I have been quoted on matters relating to finance and investments in *The Wall Street Journal*, *The Washington Post*, *The New York Times*, *The Financial Times*, and *The Boston Globe*, *Bloomberg News*, and my research relating to financial analysis and valuation has been discussed in *The Wall Street Journal*, *Bond Buyer*, and *Grant's Municipal Bond Observer*.

14. I am a member of the American Finance Association, the Financial Management Association, the North American Case Research Association, the CFA Institute, and the Boston Security Analysts Society, where I have served as a member of the education committee and ethics subcommittee. I served on the Fixed Income Specialization Examination Committee of the CFA Institute.
15. The CFA designation is the premier credential for financial analysts, worldwide. In order to receive this credential, applicants must pass a series of three exams covering such topics as economics, equity analysis, financial valuation, business analysis, quantitative methods, investment analysis, portfolio management, risk management, financial accounting, and ethical and professional standards. I have taught in the Boston University CFA Review Program and the Boston Security Analysts Society CFA Review Program – two of the leading review programs that help candidates prepare for the CFA exams. In both of these programs I taught the most advanced level.
16. In addition to my teaching, research, CFA, and academic community responsibilities, I practice extensively as a financial consultant. Past and present clients include the United States Securities and Exchange Commission, the Internal Revenue Service, the Attorney General of the State of Illinois, and the National Association of Securities Dealers. As a financial consultant, I have conducted analyses and presented opinions related to markets and valuation in over 50 cases. Exhibit-3 lists my prior testimony appearances over the past four years.
17. My firm is being compensated at a rate of \$675 per hour for my work on this matter, and my compensation is not contingent on my findings or on the outcome of this matter. I am the managing principal of the consulting firm Crowninshield Financial Research, which receives compensation for the work performed by analysts who assist me on this case.

CONCLUSIONS

18. The information about the underwriting process in the offering of the Certificates was important and bears on the valuation of all credit tranche certificates. A reasonable investor would consider this information important when making an investment decision about the Certificates.

19. The allegedly untrue statements about the underwriting process would impact the value of the Certificates and influence investors' investment decisions, irrespective of the specifics of the mortgage collateral pool loan data.
20. Untrue statements about underwriting affect certificate value and investment decisions, not only on account of diminution in value of the collateral pool caused by realized defaults that may have been better predicted with accurate information, but also on account of the reduced expected future cash flow resulting from a greater probability of future defaults and uncertainty about the quality of the collateral pool.
21. At least 714 unique investors purchased Certificates at the time the Certificates were first offered.
22. Damages suffered by the Plaintiffs and Class can be computed by applying the statutory arithmetic formulas, using investor trading records and data from available databases.
23. The value of all credit tranches, and similarly all Certificates, would be impacted by the allegedly untrue statements about the underwriting process, albeit to varying extents. Accordingly, the attribution of damages among the investors is a straightforward computational matter.

FACTUAL BACKGROUND

About the Certificates

24. The securities at issue in this case are approximately \$7.8 billion of mortgage-backed securities issued and sold pursuant to a series of offering documents filed by IndyMac MBS, Inc. ("IndyMac MBS"), including registration statements, prospectuses, and prospectus supplements (collectively, the "Offering Documents").¹
25. Table-1 presents a summary of the issuing entities and aggregate initial balance amounts of the Certificates at issue in this case.

¹ The offering documents include the prospectuses and prospectus supplements related to two registration statements: 1) the 24 February 2006 registration statement and associated amendments, dated 29 March 2006 and 13 April 2006 ("2006 Registration Statement"), and 2) the 14 February 2007 registration statement and associated amendments, dated 1 March 2007, 5 June 2007, 6 June 2007, and 19 June 2007 ("2007 Registration Statement").

Table-1: The Certificates

Date of Prospectus Supplement	Issuing Entity	Amount (\$ million)
4/27/2006	IndyMac INDX Mortgage Loan Trust 2006-AR11	\$860.9
5/26/2006	IndyMac INDX Mortgage Loan Trust 2006-AR15	\$1,263.1
6/14/2006	IndyMac Residential Mortgage Backed Trust, Series 2006-L2	\$223.7
8/29/2006	IndyMac INDA Mortgage Loan Trust 2006-AR2	\$494.0
9/7/2006	IndyMac MBS Home Equity Mortgage Loan Asset Backed Trust, Series INABS 2006-D	\$918.7
9/27/2006	IndyMac INDX Mortgage Loan Trust 2006-FLX1	\$352.2
9/28/2006	IndyMac INDX Mortgage Loan Trust 2006-AR29	\$827.3
10/30/2006	IndyMac INDX Mortgage Loan Trust 2006-AR14	\$1,097.1
11/29/2006	IndyMac INDX Mortgage Loan Trust 2006-AR35	\$1,057.4
9/27/2007	IndyMac INDA Mortgage Loan Trust 2007-AR7	\$698.6
Total Amount:		\$7,793.0

26. The collateral pools, against which the Certificates were issued, were composed of whole loans. For example:

“The mortgage pool will consist primarily of 30-year conventional adjustable-rate mortgage loans secured by first liens on one- to four-family residential properties.”

Prospectus Supplement, IndyMac MBS, Inc. ‘Depositor’, IndyMac INDX Mortgage Loan Trust 2006-AR35, dated 29 November 2006, p. S-6.

“On the closing date, the mortgage pool will consist of fixed-rate and adjustable-rate, closed-end, sub-prime mortgage loans secured by first and second liens on one-to-four family residential properties.”

Prospectus Supplement, IndyMac MBS, Inc. ‘Depositor’, Home Equity Mortgage Loan Asset-Backed Trust, Series INABS 2006-D, dated 7 September 2006, p. S-4.

“The mortgage pool will consist primarily of 30-year conventional adjustable-rate negative amortization mortgage loans secured by first liens on one- to four-family residential properties.”

Prospectus Supplement, IndyMac MBS, Inc. ‘Depositor’, IndyMac INDX Mortgage Loan Trust 2006-FLX1, dated 27 September 2006, p. S-7.

“All of the mortgage loans in the trust are residential ‘lot loans’ that are balloon loans. These mortgage loans provide short-term financing for borrowers buying land with the intention of building a home. Each mortgage loan is secured by a parcel of land that has been improved for residential use, i.e. it is legally accessible by street and sewer, electricity and water have been brought to the site or are available in the street, but a residence has not yet been built thereon.”

Prospectus Supplement, IndyMac MBS, Inc. ‘Depositor’, IndyMac Residential Mortgage-Backed Trust, Series 2006-L2, dated 14 June 2006, p. S-12.

Creation of the Collateral Pools and the Certificates

27. Creating mortgage-backed securities involves several entities, each with a role in the multi-step process.
28. The mortgage loans constituting the collateral pools were acquired by IndyMac Bank, the securitization sponsor. IndyMac Bank acquired mortgage loans four different ways:²

“IndyMac Bank acquires mortgage loans principally through four channels: mortgage professionals, consumer direct, correspondent and conduit. IndyMac Bank also acquires a relatively small number of mortgage loans through other channels.”

Prospectus Supplement, IndyMac MBS, Inc. ‘Depositor’, IndyMac INDX Mortgage Loan Trust 2006-AR35, dated 29 November 2006, p. S-66.

29. Irrespective of the channel of loan acquisition, IndyMac Bank purportedly underwrote all mortgage loans prior to including them in the pools, meaning it verified that borrower and loan characteristics conformed to its established guidelines. For example:

“Mortgage loans that are acquired by IndyMac Bank are underwritten by IndyMac Bank according to IndyMac Bank’s underwriting guidelines,... .”

Prospectus Supplement, IndyMac MBS, Inc. ‘Depositor’, IndyMac INDX Mortgage Loan Trust 2006-AR35, dated 29 November 2006, p. S-67.

30. After constructing a given mortgage pool, IndyMac Bank transferred it to the depositor, IndyMac MBS.
31. IndyMac MBS in turn transferred the mortgage pool to the respective issuing trust (the “Trust”), in return for certificates issued by the Trust. Each certificate entitles its owner to cash payments, which are generated by the pool.
32. Numerous parties generally collaborate to design such certificates, including the sponsor, the depositor, ratings agencies, and investment banks who serve as security underwriters.
33. IndyMac MBS filed the required offering documents with the Securities and Exchange Commission (“SEC”), and subsequently sold the Certificates to a number of investment banks identified as the “Underwriter Defendants” in the Amended Complaint.³

² The four sources of mortgage loans are common among the Certificates, except with respect to those issued by IndyMac Residential Mortgage-Backed Trust, Series 2006-L2, where, according to the 14 June 2006 prospectus supplement, IndyMac Bank “will have originated the mortgage loans to be included in the trust and will be the seller of the mortgage loans.” Prospectus Supplement, IndyMac MBS, Inc. ‘Depositor’, IndyMac Residential Mortgage-Backed Trust, Series 2006-L2, dated 14 June 2006, p. S-24.

34. The Underwriter Defendants then sold the Certificates to investors. The process of purchasing certificates and reselling them to investors is known as security underwriting. An integral component of the security underwriting process is inspection of offering documents to ensure their accuracy.
35. Acting as the servicer, IndyMac Bank collected principal and interest payments from mortgage borrowers and dealt with mortgage delinquencies as necessary. The servicer delivers the principal and interest payments, net of a servicing fee, to the trustee.
36. The trustee was hired by the Trust to collect mortgage pool cash flows from the servicer, calculate investors' monthly distributions, prepare monthly statements, and ensure the safekeeping of the mortgage files.

Summary of Plaintiffs' Allegations

37. According to the Plaintiffs, the Offering Documents contained untrue statements about the mortgage underwriting process. The Offering Documents described the purported mortgage underwriting guidelines and stated that IndyMac adhered to the underwriting guidelines. Plaintiffs allege that these statements were untrue because IndyMac allegedly abandoned its underwriting guidelines.

“The Offering Documents contain untrue statements of material fact and omit to state facts necessary to make the statements therein not misleading. The materially untrue and misleading statements contained in the Offering Documents can be summarized as follows:
(a) misrepresentations and omissions regarding the underwriting standards and practices employed by IndyMac Bank;”
Amended Complaint, filed 29 October 2009, p. 37.

“These representations and omissions were materially untrue or misleading because, among other things: (a) IndyMac Bank did not adhere to its stated underwriting guidelines in originating or acquiring the mortgages that it bundled together in creating the Certificates;”
Amended Complaint, filed 29 October 2009, p. 38.

³ Amended Complaint, filed 29 October 2009, paragraphs 33-46.

The Underwriting Process

38. In the construction and issuance of mortgage-backed securities, mortgage underwriting refers to the process of verifying loan information and screening so that only loans of an established caliber are included in the collateral pool.

“Sound underwriting execution is the key to maintaining overall loan quality; and risk management is the key to providing the proper direction to underwriters – the industry’s stewards of quality.”

“Guarding Against Risk,” by Larry Pierzchalski, *Mortgage Banking*, June 1996, p. 41.

39. The metrics usually verified and screened indicate likelihood of loan performance (or alternatively, default risk), such as borrower income and assets, loan size, and credit history.
40. The factors IndyMac purportedly examined in its underwriting process included:⁴
- FICO credit score,
 - borrower income,
 - borrower’s assets,
 - borrower’s employment,
 - loan documentation type,
 - the value and adequacy of the mortgaged property as collateral,
 - loan-to-value ratio,
 - total monthly debt payments-to income ratio,
 - borrower occupancy,
 - the number and degree of any late mortgage or rent payments within the preceding 12-month period,
 - the age of any foreclosure action against any property owned by the borrower,
 - the age of any bankruptcy action,
 - the number of seasoned tradelines reflected on the credit report, and
 - any outstanding judgments, liens, chargeoffs or collections.
41. In the description of the underwriting process in the Offering Documents, IndyMac purportedly adhered to strict underwriting standards so as to provide a high level of credit

⁴ See, for example, Prospectus Supplement, IndyMac MBS, Inc. ‘Depositor’, IndyMac INDX Mortgage Loan Trust 2006-AR35, dated 29 November 2006, pp. S-67 through S-69. This description of the underwriting guidelines was common among the prospectus supplements, and was also common to the 2006 Registration Statement and the 2007 Registration Statement.

quality. In the case of loans with less than full documentation, more stringent standards were purportedly applied to compensate for the reduced documentation. For example:

“In general, documentation types that provide for less than full documentation of employment, income and liquid assets require higher credit quality and have lower loan-to-value ratios and loan amount limits.”
Prospectus Supplement, IndyMac MBS, Inc. ‘Depositor’, IndyMac INDX Mortgage Loan Trust 2006-AR35, dated 29 November 2006, p. S-66.

42. That is, even for loans known to have less documentation, IndyMac represented in the Offering Documents that its standards ensured high credit quality of the pooled loans.

UNDERWRITING MATTERS

43. The mortgage underwriting process matters greatly to investors in mortgage-backed securities. This factor is considered by reasonable investors making investment decisions regarding mortgage-backed securities and is integral to the valuation of the securities. The academic and professional finance literature is clear about these facts:

“Within any given economic environment, additional factors will play a role in determining loss experience. Underwriting is one of the more influential factors. Conservative and diligent underwriting provides the best defense against future economic uncertainty. Loans underwritten to less stringent standards are more vulnerable to losses.”
“The Default and Loss Experience of Nonagency MBS,” by Thomas Gillis, chapter 12, in *The Handbook of Nonagency Mortgage-Backed Securities*, 2nd edition, edited by Frank J. Fabozzi, Chuck Ramsey, Michael Marz, 2000, p. 188.

“S&P’s most important determinant of loss is based on economic factors such as a change in housing price, a change in salary, or a change in employment. **The next consideration is underwriting.** Mortgage payments should be less than 30% of monthly salary. Any loan where payments begin below the fixed-rate equivalent (*e.g.*, GEM, GPM, ARMS, balloons) are subject to greater risk. Income, employment, and down payment should be verified. **Solid underwriting helps mitigate errors in economic projections.**”
“Understanding and Valuing Mortgage Security Credit,” by Nancy DeLiban and Brian P. Lancaster, *Journal of Housing Research*, p. 213 (emphasis added).

“Information about the composition and characteristics of the asset pool is a fundamental disclosure considered by investors in making an informed investment decision regarding an MBS.”

“**Understanding the Prospectus and Prospectus Supplement**,” by David M. Lukach, Yogesh Gupta, Thomas Knox, and John Gibson, chapter 7, in *The Handbook of Mortgage-Backed Securities*, 6th edition, edited by Frank J. Fabozzi, 2006, p. 135.

“We contend that loss severity has decreased dramatically during the 1990s for several key reasons.

- ▶ Underwriting practices have improved greatly.
Underwriting guidelines have become more clearly defined
and been more consistently applied since the early 1990s.”

“**Examining Loss Severity in Nonagency MBSs**,” by Peter A. DiMartino, in *Bond Market Roundup: Strategy*, Salomon Smith Barney, 25 June 1999.

“Our analysis suggests that four types of variables representing the economic environment, **loan underwriting standards**, time, and property/loan characteristics are important determinants of default.”

“**Default Probabilities and Credit-Adjusted Spreads for Non-Agency Mortgage Securities**,” by Christian R. Pestre, Paul A. Richardson, and Charles E. Webster Jr., *Journal of Fixed Income*, June 1992 (emphasis added).

“[losses sufficient to impair the senior class] may happen when there are extremely heavy state concentrations or very high levels of limited documentation loans when originators chase after market share and pure production to sustain growth in overhead. ... The only way investors have of limiting this potential, since it cannot be completely eliminated, is to focus on the quality of the mortgage underwriting and the quality of the collateral.”

“**A Credit Intensive to Approach Whole Loan CMOs**,” by Edward L. Toy, chapter 15, in *The Handbook of Nonagency Mortgage-Backed Securities*, 2nd edition, edited by Frank J. Fabozzi, Chuck Ramsey, Michael Marz, 2000, pp. 234-235.

44. The final quote above addresses the specific allegation in this case – that underwriting standards were abandoned in a quest for rapid growth, but that the Offering Documents contained untrue statements regarding the said underwriting standards. As explained in the excerpt, quality underwriting protects investors in senior and subordinate tranches alike.

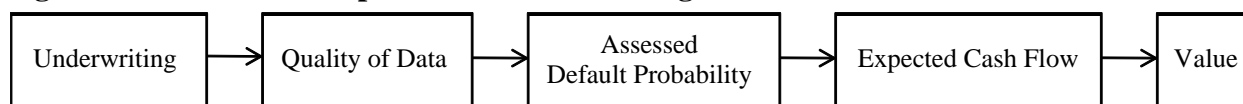
Why Underwriting Matters

45. The value of any debt security depends on the expected cash flow the security delivers to the investor. The expected cash flow depends on the probability of default. In the case of mortgage-backed securities, the expected cash flow to the certificate holders depends on

the likelihood the underlying mortgage borrowers meet their contractual obligations to make scheduled payments, or alternatively default. That is, the expected cash flow is the contractual cash flow scaled down by the probability of default. Abundant research has determined that the variables examined during the underwriting process are the key determinants of default probability. Consequently, the quality of the underwriting process impacts expected cash flow and in turn the value of the securities.

46. Figure-1 depicts how the underwriting process affects the value of mortgage-backed securities.

Figure-1: The Relationship Between Underwriting and Value



47. The following sections document that these principles are well established in the finance literature.

Expected Cash Flow Determines Value

48. The value of any debt security is a function of its expected future cash flows.

“The price of any financial instrument is equal to the present value of the expected cash flows from the financial instrument.”

Bond Markets, Analysis and Strategies, 7th edition, by Frank J. Fabozzi, 2010, p. 21.

“As we mentioned above, the value of a bond is simply the present value of its cash flows.”

Corporate Finance, 3rd edition, by Stephen A. Ross, Randolph W. Westerfield, and Jeffrey F. Jaffe, 1988, p. 117.

“To value a security, we discount its expected cash flows by the appropriate discount rate.”

Investments, 6th edition, by Zvi Bodie, Alex Kane, and Alan J. Marcus, 2005, p. 455.

49. While the greater complexity of mortgage-backed securities relative to traditional fixed-income securities necessitates more sophisticated valuation models, the paramount importance of expected future cash flow remains.

“The theoretical value [of a mortgage-backed security] derived from the above equation is based on some spread, K. It follows the usual practice

of discounting cash flows at spot rates plus a spread – in this case the spread is K. This procedure for valuing a passthrough is also followed for a [collateralized mortgage obligation] tranche.”

Fixed Income Analysis for the Chartered Financial Analyst® Program, 2nd edition, by Frank J. Fabozzi, 2004, p. 454.

Default Probability Impacts Expected Cash Flow

50. Generally, mortgage pool cash flow is adversely impacted by defaults among the underlying mortgage loans. While realized cash flow is generally reduced by the occurrence of defaults, expected future cash flow is negatively impacted by the forecasted probability of defaults. The greater the probability of default among the pool’s underlying mortgages, the lower the cash flow the pool can be expected to generate.

“Default projections are required for projecting loss-adjusted cash flows for mortgage pools, and they are key to accurately quantifying mortgage credit risk.”

“Modeling of Mortgage Defaults,” by Lakhbir S. Hayre, Manish Saraf, Robert Young, and Jiakai Chen, *Journal of Fixed Income*, Spring 2008.

51. Private insurance, government guarantees, and potential foreclosure recovery proceeds may offset the negative impact of defaults on cash flow. However, the pool underlying a nonagency mortgage-backed security is generally not covered by a government guarantee. Moreover, the level of private insurance coverage and potential foreclosure proceeds depend on underwriting quality, the very factor at issue in this case.
52. It is important to note that even in a situation where there have been no defaults, expected future cash flow falls if the assessed probability of defaults rises. That is, even if all mortgages are performing, a greater default probability impacts expected future cash flow, and therefore reduces the value of the pool and supported securities.

Underwriting Factors Impact Mortgage Default Probability

53. The underwriting process is essentially a gate-keeping function, verifying data and screening to allow into a mortgage pool only those mortgages that satisfy established criteria.
54. The process focuses on factors that are known to impact default probability.

55. IndyMac's underwriting process, set forth in the Offering Documents, purportedly considered factors that empirical research has established as determinants of mortgage default probability.

"The two primary factors in determining whether the funds will be lent are the *payment-to-income* (PTI) ratio and the *loan-to-value* (LTV) ratio. The PTI, the ratio of monthly payments (both mortgage and real estate tax payments) to monthly income, is a measure of the ability of the applicant to make monthly payments. The lower this ratio, the greater is the likelihood that the applicant will be able to meet the required payments."
"Mortgages," by Frank J. Fabozzi and Lynn M. Edens, chapter 2, in *The Handbook of Mortgage-Backed Securities*, 4th edition, edited by Frank J. Fabozzi, 1995, p.10 (emphasis in original).

"In contrast to the continuous measure considered in prior work, Williams, Beranek, and Kenkel (1974) included payment-to-income ratio information in categorical form in their analysis of the default decision. In this form, borrowers with an initial payment-to-income ratio higher than 30 percent were significantly more likely to default than were other borrowers."

"Residential Mortgage Default: A Review of the Literature," by Roberto G. Quercia and Michael A. Stegman, *Journal of Housing Research*, 1992, p. 350.

"The study further focused on the impact of underwriting changes affecting four key high-risk factors: the percent of the borrower's down payment; the borrower's credit history; the borrower's housing and total debt ratio; and the borrower's cash reserves after closing.

...

The key finding from this analysis was that claim incidence increased as the number of high-risk factors increased."

"Ready to Make the Grade," by Gordon H. Steinbach, *Mortgage Banking*, June 1995, pp. 38-39.

"Several borrower characteristics, most notably those related to permanent income of the borrower, also appear to influence default."

"Estimation of Mortgage Defaults Using Disaggregate Loan History Data," by Kerry D. Vandell and Thomas Thibodeau, *AREUEA Journal*, 1985, p. 308.

"The Borrower's financial capabilities and general creditworthiness are key factors in assessing default risk."

"Modeling of Mortgage Defaults," by Lakhbir S. Hayre, Manish Saraf, Robert Young, and Jiakai Chen, *Journal of Fixed Income*, Spring 2008.

Poor Underwriting Undermines Confidence in Credit

56. How investors respond to information gaps has been intensively studied by economists. The seminal work of Nobel laureates George Akerlof, Michael Spence, and Joseph Stiglitz addresses precisely this question. A rich literature of empirical and theoretical research has expounded on their insights in the forty years since the publication in 1970 of Akerlof's famous "Lemons" article.

"For more than two decades, research on incentives and market equilibrium in situations with asymmetric information has been a prolific part of economic theory. ... The modern theory of markets with asymmetric information rests firmly on the work of this year's [Nobel] prizewinners: George Akerlof, Michael Spence, and Joseph Stiglitz."
"Markets with Asymmetric Information: The Contributions of George Akerlof, Michael Spence and Joseph Stiglitz," by Karl-Gustaf Lofgren, Torsten Persson, and Jorgen W. Weibull, *The Scandanavian Journal of Economics*, June 2002.

57. The general consensus within the "asymmetric information" field of inquiry is that when the quality of a product—be it a mortgage loan or a used car—is unverified, potential buyers expect adverse selection to drive down the quality of the product traded in the marketplace. In essence, buyers and investors would assume the worst about the quality of the unverified product. Prices fall, and many buyers/investors choose not to transact.

"There are many markets in which buyers use some market statistic to judge the quality of prospective purchases. In this case there is incentive for sellers to market poor quality merchandise, since the returns for good quality accrue mainly to the entire group whose statistic is affected rather than to the individual seller. As a result there tends to be a reduction in the average quality of goods and also in the size of the market."
"The Market for 'Lemons': Quality Uncertainty and the Market Mechanism, by George A. Akerlof, *The Quarterly Journal of Economics*, August 1970.

"Akerlof showed how informational asymmetries can produce adverse selection in markets. When lenders or car buyers have imperfect information, borrowers with weak repayment prospects or sellers of low-quality cars may thus crowd out everyone else from their side of the market, stifling mutually advantageous transactions."
"Markets with Asymmetric Information: The Contributions of George Akerlof, Michael Spence and Joseph Stiglitz," by Karl-Gustaf Lofgren, Torsten Persson, and Jorgen W. Weibull, in *The Scandanavian Journal of Economics*, June 2002.

“An important case involves information about product quality. Sellers may know the quality of the item they sell but it may be in their interest to withhold that information. If there is no way for buyers to learn about the sellers’ quality, then this will force all items to sell at the same price.”

“The Informational Role of Warranties and Private Disclosure about Product Quality,” chapter 8, in *The Informational Role of Prices*, by Sanford Grossman, 1991.

58. A key result of Akerlof’s work and the research in this field, important to the analysis of the Certificates in this case, is that regardless of whether or not the unverified product really is of lower quality, without information to the contrary, the market will price the product as if it were of lower quality.
59. Michael Spence added to Akerlof’s work by showing how economic agents and intermediaries expend resources to assure potential buyers of the quality of their products, so as to raise their respective product’s market price. This is exactly what IndyMac represented to have done by claiming to adhere to strict underwriting guidelines.

“Spence’s most important work demonstrates how agents in a market can use signaling to counteract the effects of adverse selection. In the asymmetric-information context, signaling refers to observable actions taken by economic agents to convince the opposite party of the value or quality of their products.”

“Markets with Asymmetric Information: The Contributions of George Akerlof, Michael Spence and Joseph Stiglitz,” by Karl-Gustaf Lofgren, Torsten Persson, and Jorgen W. Weibull, in *The Scandinavian Journal of Economics*, June 2002.

60. Applying these principles specifically to mortgage-backed securities, Federal Reserve economists Paul Bennett, Richard Peach, and Stavros Peristiani concur that a lack of reliable information about mortgage pool credit quality would diminish the market value of mortgage-backed securities and would dissuade investors from buying such securities:

“Asymmetric information makes it more likely that investors with less information will incur losses, demand higher yields, or avoid the market altogether.”

“How Much Mortgage Pool Information Do Investors Need?” by Paul Bennett, Richard Peach, and Stavros Peristiani, *Journal of Fixed Income*, June 2001.

Summary of Why Underwriting is Important

61. According to fundamental economic principles, information about underwriting guidelines determines investors' confidence in the credit quality of the underlying mortgage pool, their assessment of default probability, and in turn their cash flow forecasts. Expected cash flow (appropriately weighted by the probability of default) is the basis of valuation. Consequently, information about underwriting guidelines is important to investors as they value mortgage-backed certificates and make investment decisions.
62. In accordance with the literature on asymmetric information, the veracity (or lack thereof) of the statements about the underwriting process in the Offering Documents bears on the valuation of the Certificates, irrespective of the true (but unknown) credit quality of the mortgage pools.
63. Untrue statements about underwriting affect certificate value and investment decisions, not only on account of diminution in value of the collateral pool caused by realized defaults that may have been better predicted with accurate information, but also on account of the reduced expected future cash flow resulting from greater default probability and uncertainty about the quality of the collateral pool.

COMMONALITY OF STATEMENTS AND THEIR ADVERSE IMPACT

Common Statements about Underwriting in the Offering Documents

64. The allegedly untrue statements pertain to all Certificates. The descriptions of the underwriting process, which Plaintiffs allege are untrue, are contained in both the 2006 Registration Statement and the 2007 Registration Statement, pursuant to which all of the certificates were issued and sold. Allegedly untrue statements about the underwriting process are also contained in the prospectuses and prospectus supplements for all of the Certificates.

Common Impact Notwithstanding Credit Tranche Structure

65. The nature of the impact of the allegedly untrue statements on valuation and investment decisions is the same for all of the Certificates. Greater uncertainty about the collateral affects the value of all certificates.
66. A tranche structure is a set of rules according to which the cash flows generated by the collateral pool, net of servicing fees, is divided among the different certificates. The rules cover a number of contingencies, such as distribution of prepaid principal, changing cash flow due to variable coupon rates, and changes in principal on account of mortgage defaults, for example. Nonetheless, the aggregate cash flow to the certificates equals the cash flow generated by the collateral pool, net of fees.

“‘Tranche’ is from an old French word meaning ‘slice.’ In the case of collateralized mortgage obligation it refers to a ‘slice of the cash flows.’”
“**Mortgage-Backed Sector of the Bond Market,**” Reading 56, by Frank J. Fabozzi, in *Alternative Asset Valuation and Fixed Income*, CFA Program Curriculum, Volume 5, Level II, 2009, p. 344.

“Now remember that a CMO is created by redistributing the cash flow – interest and principal – to the different tranches based on a set of payment rules.”
“**Mortgage-Backed Sector of the Bond Market,**” Reading 56, by Frank J. Fabozzi, in *Alternative Asset Valuation and Fixed Income*, CFA Program Curriculum, Volume 5, Level II, 2009, p. 345.

67. Because value derives from expected cash flow, and the cash flow to the tranches derives from the collateral pool, any factor that impairs the expected cash flow and value of the collateral pool will impair the aggregate value of the tranche certificates.
68. Credit tranches are designed to insulate more senior tranches from credit events, such as delinquencies and defaults. The cash flow impact of credit events is initially absorbed by the more subordinate tranches, thereby protecting to some extent the more senior tranches. The tranche structure does not eliminate the credit risk of the collateral pool, but rather allocates it across the different securities.
69. Because the safety of the senior tranches depends on the credit enhancement provided by the subordinate tranches, and credit events reduce that support, credit events negatively impact the value of all credit tranches, both senior and subordinate.

70. In particular, if credit events have compromised the cash flow to a subordinate tranche but not yet impacted the cash flow to a more senior tranche, the value of the senior tranche certificates nonetheless falls. The internal credit enhancement provided by the junior tranches has eroded, increasing the probability that the senior tranche's future cash flow will later be impaired.
71. Untrue statements about mortgage underwriting therefore impact all credit tranches, albeit to varying amounts. Just as cash flow and credit risk are allocated among the various tranches by design, so too will be the negative valuation impact of untrue statements about the underwriting process.
72. Even though senior certificates may currently be performing – that is, they are not in default and the investors are continuing to receive contractual payments – the value of these certificates will be diminished if the description of the underwriting process outlined in the Offering Documents were untrue.
73. The amount by which the value of each credit tranche is impacted is simply a matter of attribution and a function of the probability that a given tranche's cash flow will be impaired.

NUMEROSITY

74. Numerous investors purchased or otherwise acquired the Certificates.
75. According to documents produced by Defendants to date,⁵ it appears that at least 714 unique investors purchased Certificates at the time the Certificates were first offered, directly from the security underwriters.
76. The investor data includes names for a majority of the investors, while other investors are identified by a client account number.
77. Exhibit-4 tabulates the investors who, according to the data provided, purchased Certificates at the time the Certificates were first offered. The list of investors appears to be geographically dispersed.

⁵ Defendants' data production [CS_0000001 - CS_0000120; DBSI_0000001 - DBSI_0000005; JPMSL 0000001 - JPMSL 0000006; MS 0000001 - MS 0000012; UBS 0000001 - UBS 0000005; RBS_0000001-RBS_0000008]. Further, the Lehman Brothers' transactions are not included in the document production and are therefore not included in the estimate of the number of Class members.

78. There were likely many more initial purchasers of certificates than the 714 presented in Exhibit-4. Many of the identified purchasers are large investment firms, such as State Street Global Advisors. It is likely that such firms purchased certificates on behalf of individual investor accounts or distinct investment funds.
79. Furthermore, additional production data provided by Plaintiffs' counsel indicate that still more investors purchased certificates within a relatively short timeframe following the time the Certificates were first offered.⁶ As well, production of investor purchases from the security underwriters is ongoing. Consequently, 714 is a conservative estimate of the number of Class members. The actual number is likely much greater.

DAMAGES COMPUTATION METHODOLOGY

80. According to Section 11 of the Securities Act of 1933, damages to investors are computed as:

“the difference between the amount paid for the security (not exceeding the price at which the security was offered to the public) and (1) the value thereof as of the time such suit was brought, or (2) the price at which such security shall have been disposed of in the market before suit, or (3) the price at which such security shall have been disposed of after suit but before judgment if such damages shall be less than the damages representing the differences between the amount paid for the security (not exceeding the price at which the security was offered to the public) and the value thereof as of the time such suit was brought...”

81. According to Section 12 of the Securities Act of 1933, damages to investors are computed as:

“the consideration paid for such security with interest thereon, less the amount of any income received thereon, upon tender of such security, or for damages if he no longer owns the security.”

82. As detailed in the excerpts from the statute above, Section 11 and Section 12 damages for any particular investor are straightforward arithmetic functions of the initial offering price, the purchase price, the sale price (if the certificate was sold), and the value of the certificate

⁶ For example, Brown Brothers Harriman & Co. account statements [BBH0000001-BBH0000066].

on the date the suit was brought. Computation of damages is accomplished by inserting the parameter data into the statutory formulas.

83. For each certificate, the offering price is a matter of public record. The purchase and sale prices can be obtained from the investor's trading records. The value of the certificate on any other date, including the date on which the suit was brought can be obtained from available pricing databases, such as that provided by Interactive Data Corporation.

“Interactive Data offers daily evaluations and related data for U.S. Non-Agency collateralized mortgage obligations (CMOs) that include but are not limited to Prime, Jumbo, and ALT-A (Fixed and ARM) collateral.”
“U.S. Non-Agency Collateralized Mortgage Obligations: Evaluation Methodology,”
Interactive Data Pricing and Reference Data, Inc., 2010.

84. The valuations provided by Interactive Data Corporation are based on, among other things, the expected cash flows of the securities. The Interactive Data price series can also be used as verification or a proxy for trading records where necessary.
85. The Interactive Data price series can be used to estimate approximate Class-wide damages, employing the approximating assumption that all Certificates were purchased on the issue date and held (by original or subsequent investors) until the lawsuit filing date.

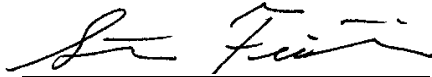
SUMMARY

86. Information about the mortgage underwriting process matters greatly to investors as they value mortgage-backed securities and make investment decisions.
87. Fundamental economic principles dictate that any uncertainty concerning the legitimacy or accuracy of the underwriting process affects investors' confidence in the credit quality of the underlying mortgage pool, their assessment of default probability, their cash flow forecasts, and ultimately the value of the securities.
88. Untrue statements about underwriting impact the value of all certificates. Even senior and performing tranches are impacted.
89. According to documents produced by Defendants, it appears that at least 714 unique investors purchased Certificates at the time the Certificates were first offered, though this estimate is likely a conservative estimate of the number of Class members.

90. Damages suffered by the Plaintiffs and Class can readily be computed by applying the statutory arithmetic formulas, using investor trading records and data from available databases. The attribution of damages among the investors is a straightforward computational matter.

LIMITING FACTORS AND OTHER ASSUMPTIONS

91. This report is furnished solely for the purpose of court proceedings in the above named matter and may not be used or referred to for any other purpose. The analysis and opinions contained in this report are based on information available as of the date of this report. I reserve the right to supplement or amend this report, including in the event additional information becomes available.

A handwritten signature in black ink, appearing to read "Steven P. Feinstein", is written over a horizontal line.

Steven P. Feinstein, Ph.D., CFA

Exhibit-1

Documents and Other Information Reviewed and Relied Upon

LEGAL DOCUMENTS

- Amended Class Action Complaint for Violations of The Securities Act of 1933, filed 29 October 2009.
- Memorandum Opinion (re: motions of the remaining defendants), filed 21 June 2010.
- Order, filed 7 July 2010.

SEC FILINGS

- Registration Statement, Form S-3, IndyMac MBS, Inc., filed 24 February 2006.
- Registration Statement, Form S-3A, IndyMac MBS, Inc., filed 29 March 2006.
- Registration Statement, Form S-3A, IndyMac MBS, Inc., filed 13 April 2006.
- Prospectus Supplement, IndyMac MBS, Inc. 'Depositor', IndyMac INDX Mortgage Loan Trust 2006-AR11, dated 27 April 2006.
- Prospectus Supplement, IndyMac MBS, Inc. 'Depositor', IndyMac INDX Mortgage Loan Trust 2006-AR15, dated 26 May 2006.
- Prospectus Supplement, IndyMac MBS, Inc. 'Depositor', IndyMac Residential Mortgage Backed Trust, Series 2006-L2, dated 14 June 2006.
- Prospectus Supplement, IndyMac MBS, Inc. 'Depositor', IndyMac INDA Mortgage Loan Trust 2006-AR2, dated 29 August 2006.
- Prospectus Supplement, IndyMac MBS, Inc. 'Depositor', IndyMac MBS Home Equity Mortgage Loan Asset Backed Trust, Series INABS 2006-D, dated 7 September 2006.
- Prospectus Supplement, IndyMac MBS, Inc. 'Depositor', IndyMac INDX Mortgage Loan Trust 2006-FLX1, dated 27 September 2006.
- Prospectus Supplement, IndyMac MBS, Inc. 'Depositor', IndyMac INDX Mortgage Loan Trust 2006-AR29, dated 28 September 2006.
- Prospectus Supplement, IndyMac MBS, Inc. 'Depositor', IndyMac INDX Mortgage Loan Trust 2006-AR14, dated 30 October 2006.
- Prospectus Supplement, IndyMac MBS, Inc. 'Depositor', IndyMac INDX Mortgage Loan Trust 2006-AR35, dated 29 November 2006.
- Registration Statement, Form S-3, IndyMac MBS, Inc., filed 14 February 2007.
- Registration Statement, Form S-3A, IndyMac MBS, Inc., filed 1 March 2007.
- Registration Statement, Form S-3A, IndyMac MBS, Inc., filed 5 June 2007.
- Registration Statement, Form S-3A, IndyMac MBS, Inc., filed 6 June 2007.
- Registration Statement, Form S-3A, IndyMac MBS, Inc., filed 19 June 2007.
- Prospectus Supplement, IndyMac MBS, Inc. 'Depositor', IndyMac INDA Mortgage Loan Trust 2007-AR7, dated 27 September 2007.

Exhibit-1**Documents and Other Information Reviewed and Relied Upon****ACADEMIC LITERATURE**

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- Gillis, Thomas, “The Default and Loss Experience of Nonagency MBS,” *The Handbook of Nonagency Mortgage-Backed Securities*, 2nd edition, edited by Frank J. Fabozzi, Chuck Ramsey, Michael Marz, Frank J. Fabozzi Associates, 2000, pp. 183-190.
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- Hayre, Lakhbir S., Manish Saraf, Robert Young, and Jiakai Chen, “Modeling of Mortgage Defaults,” *Journal of Fixed Income*, 2008.
- Lofgren, Karl-Gustaf, Torsten Persson, and Jorgen W. Weibull, “Markets with Asymmetric Information: The Contributions of George Akerlof, Michael Spence and Joseph Stiglitz,” *The Scandinavian Journal of Economics*, June 2002.
- Lukach, David M., Yogesh Gupta, Thomas Knox, and John Gibson, “Understanding the Prospectus and Prospectus Supplement,” *The Handbook of Mortgage-Backed Securities*, 6th edition, edited by Frank J. Fabozzi, 2006, p. 135.
- Pestre, Christian R., Paul A. Richardson, and Charles E. Webster Jr., “Default Probabilities and Credit-Adjusted Spreads for Non-Agency Mortgage Securities,” *Journal of Fixed Income*, 1992.
- Pierzchalski, Larry, “Guarding Against Risk,” *Mortgage Banking*, June 1996.
- Quercia, Roberto G., and Michael A. Stegman, “Residential Mortgage Default: A Review of the Literature,” *Journal of Housing Research*, 1992.
- Ross, Stephen A., Randolph W. Westerfield, and Jeffrey Jaffe, *Corporate Finance*, 3rd edition, McGraw-Hill Irwin, 1988.
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Documents and Other Information Reviewed and Relied Upon

- Toy, Edward L., “A Credit Intensive to Approach Whole Loan CMOs,” *The Handbook of Nonagency Mortgage-Backed Securities*, 2nd edition, edited by Frank J. Fabozzi, Chuck Ramsey, Michael Marz, Frank J. Fabozzi Associates, 2000, pp. 219-235.
- Vandell, Kerry D., and Thomas Thibodeau, “Estimation of Mortgage Defaults Using Disaggregate Loan History Data,” *AREUEA Journal*, 1985.

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- “Examining Loss Severity in Nonagency MBSs,” *Bond Market Roundup: Strategy*, by Peter A. DiMartino, Solomon Smith Barney, 25 June 1999.

COMPANY DOCUMENTS

- Brown Brothers Harriman & Co. account statements [BBH0000001—BBH0000066].
- Credit Suisse transaction data [CS_0000001—CS_0000120].
- Deutsche Bank transaction data [DBSI_0000001—DBSI_0000005].
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DATA AND DATABASES

- Interactive Data

OTHER

- “Safety and Soundness: Material Loss Review of Indymac Bank, FSB,” Audit Report, Office of the Inspector General, Department of the Treasury, dated 26 February 2009.
- Hudson, Mike, “IndyMac: What Went Wrong?: How an ‘Alt-A’ Leader Fueled its Growth with Unsound and Abusive Mortgage Lending,” Center for Responsible Lending, dated 30 June 2008.
- “U.S. Non-Agency Collateralized Mortgage Obligations: Evaluation Methodology,” Interactive Data Pricing and Reference Data, Inc., 2010.
- Any other documents and data cited in the report.

Exhibit-2

**Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA**

Babson College
Finance Division
Babson Park, MA 02457
781-239-5275
Feinstein@Babson.edu

EDUCATION

- 1989 YALE UNIVERSITY
Ph.D. in Economics (Concentration in Finance)
- 1986 YALE UNIVERSITY
M.Phil. in Economics
- 1983 YALE UNIVERSITY
M.A. in Economics
- 1981 POMONA COLLEGE
B.A. in Economics (Phi Beta Kappa, *cum laude*)

TEACHING EXPERIENCE

- 1996 - present BABSON COLLEGE
Babson Park, MA
Full-time Faculty, Finance Division
Associate Professor (2000-present)
Donald P. Babson Chair in Applied Investments (2002-2010)
Faculty Director of the Babson College Fund (2002-2009)
Director of the Stephen D. Cutler Investment Management Center
(2002-2007)
Assistant Professor (1996-2000)
- 1992 - 2002 BOSTON UNIVERSITY CHARTERED FINANCIAL ANALYSTS
(CFA) REVIEW PROGRAM
Instructor
A 3-level program preparing financial analysts, portfolio managers,
brokers and other investment professionals for the examinations leading to
professional certification. The core curriculum consists of the following
modules:
- Equity Securities Analysis
 - Fixed Income Securities Analysis
 - Portfolio Management

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**Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA**

- Derivatives
- Financial Accounting
- Economic Analysis
- Quantitative Analysis
- Ethical and Professional Standards

1990 - 1995 BOSTON UNIVERSITY SCHOOL OF MANAGEMENT
Boston, MA
Full-time Faculty, Department of Finance

1993 - 1994 WASHINGTON UNIVERSITY, OLIN SCHOOL OF BUSINESS
St. Louis, MO
Visiting Assistant Professor, Department of Finance

BUSINESS EXPERIENCE

2008 - present CROWNINSHIELD FINANCIAL RESEARCH, LLC
Wellesley, MA
Managing Principal and Senior Expert

1996 - 2008 THE MICHEL-SHAKED GROUP
Boston, MA
Senior Expert (2001 - 2008)
Affiliated Expert (1996 - 2001)

1987 - 1990 FEDERAL RESERVE BANK OF ATLANTA
Economist

PROFESSIONAL DESIGNATIONS

1998 Awarded the Chartered Financial Analyst designation by the Association for Investment Management and Research.

RESEARCH AWARDS

1999 Greater Boston Real Estate Board/Real Estate Finance Association – Research Grant and Featured Speaker at Real Estate Finance Association Meetings.

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**Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA**

PAPERS AND PUBLICATIONS

“Distortion in Corporate Valuation: Implications of Capital Structure Changes” (with Allen Michel and Jacob Oded) *Managerial Finance* (forthcoming).

“Market Signals of Investment Unsuitability” (with Alexander Liss and Steven Achatz) Law360.com, June 3, 2010. Available from <http://www.law360.com/articles/170690>.

“Planning Capital Expenditure,” in *The Portable MBA in Financing and Accounting*, J. L. Livingstone and T. Grossman, editors, New York: Wiley, 3rd edition 2001, and 4th edition 2009.

“Financial Management of Risks,” in *The Portable MBA in Financing and Accounting*, J. L. Livingstone and T. Grossman, editors, New York: Wiley, 2nd edition 1997, 3rd edition 2001, and 4th edition 2009.

“Fraud-on-the-market Theory: Is a Market Efficient?” (with Allen Michel and Israel Shaked) *American Bankruptcy Institute Journal*, May 2005.

“Valuation of Credit Guarantees” (with Allen J. Michel and Israel Shaked). *Journal of Forensic Economics* 17(1), pp. 17-37, 2005.

“A Better Understanding of why NPV Undervalues Managerial Flexibility,” (with Diane Lander) in *The Engineering Economist*, 2002, Volume 47, Number 4.

“Teaching the Strong-Form Efficient Market Hypothesis: A Classroom Experiment,” *Journal of Financial Education*, fall 2000.

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“The Risk Budget: Using Your Human Resources,” (with John Marthinsen and John Edmunds) *Risk Management*, April 2000.

“Scenario Learning: A Powerful Tool for the 21st Century Planner,” (with Jeffrey Ellis and Dennis Stearns) *The Journal of Financial Planning*, April 2000.

“Protecting Future Product Liability Claimants in the Case of Bankruptcy,” (with Allen Michel and Israel Shaked) *American Bankruptcy Institute Journal*, January 2000.

“Measuring Risk with the Bodie Put When Stocks Exhibit Mean Reversion,” *The Journal of Risk*, Vol. 1, No. 3, 1999.

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**Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA**

“Just-in-Time Mathematics: Integrating the Teaching of Finance Theory and Mathematics,” (with Gordon Prichett) *Primus*, Vol. IX, No. 2, June 1999.

Atlanta Park Medical Center v. Hamlin Asset Management. (with Natalie Taylor). Babson Case Collection, Harvard Business School Press, 1998.

“Dealing with Delta,” *Derivatives Week*, VII, No. 44, November 2, 1998.

“Expected Return in Option Pricing: A Non-Mathematical Explanation,” *Derivatives Week*, VII, No. 35, August 31, 1998.

“When Hedges Fail: The Put Paradox and its Solution,” *Derivatives Quarterly*, Vol. 4, No. 2, Winter 1997.

Finance and Accounting for Project Management. New York: American Management Association, 1996.

“International Investing,” in *Irwin’s Directory of Emerging Market Brokerages*. New York: Irwin, 1996.

“The Hull and White Implied Volatility.” Boston University Working Paper #92-51, 1992.

“Immunizing Against Interest Rate Risk Using the Macaulay Duration Statistic: An Assessment,” (with Don Smith) in *Financial Systems and Risk Management*, the proceedings of the US-Japan Forum on Financial Strategy in the 1990s, sponsored by Osaka Foundation of International Exchange and Boston University, August 1991.

“Covered Call Options: A Proposal to Ease LDC Debt,” (with Peter Abken) *Federal Reserve Bank of Atlanta Economic Review*, March/April 1990. Reprinted in *Financial Derivatives: New Instruments and Their Uses*. Atlanta: Federal Reserve Bank.

“Forecasting Stock-Market Volatility Using Options on Index Futures,” *Federal Reserve Bank of Atlanta Economic Review*, May/June 1989. Reprinted in *Financial Derivatives: New Instruments and Their Uses*. Atlanta: Federal Reserve Bank.

“The Black-Scholes Formula is Nearly Linear in Sigma for At-the-Money Options; Therefore Implied Volatilities from At-the-Money Options are Virtually Unbiased.” Federal Reserve Bank of Atlanta Working Paper #88-9, December 1988.

“The Effect of the ‘Triple Witching Hour’ on Stock Market Volatility,” (with William Goetzmann) *Federal Reserve Bank of Atlanta Economic Review*, September/October 1988. Reprinted in *Financial Derivatives: New Instruments and Their Uses*. Atlanta: Federal Reserve Bank.

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**Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA**

“Stock Market Volatility,” *Federal Reserve Bank of Atlanta Economic Review*, November/December 1987.

Book review of *In Who's Interest: International Banking and American Foreign Policy*, by Benjamin J. Cohen, Yale University Press, in *Federal Reserve Bank Of Atlanta Economic Review*, Summer 1987.

PRESENTATIONS

"Determining the Defendant's Ability to Pay," at Taxpayers Against Fraud Education Fund Conference, October 2010.

“The Computation of Damages in Securities Fraud Cases,” at the Grant and Eisenhower Institutional Investor Conference, December 2002.

“The Role of the Financial Expert in Complex Litigation,” at the Financial Management Association Conference, October 2000.

“Entrepreneurial Incentives and Resource Allocation Among Corporate Venturing Initiatives,” (with Joel Shulman and U. Srinivasa Rangan), Babson Entrepreneurship Research Conference, May 2000.

“Application of Real Options in Purchasing Strategies,” (with Juan Orozco), presented at the International Applied Business Research Conference, March 2000.

“A Future for Real Estate Futures,” (with Linda Stoller) at the Fairfield County chapter of the Real Estate Finance Association, November 1999, and at the Greater Boston Real Estate Board, November 2000.

“Atlanta Park Medical Center v. Hamlin Asset Management,” (with Natalie Taylor) at the 1999 convention of the North American Case Research Association.

“Using Future Worlds™ in the Financial Planning Process,” (with Jeffrey Ellis) at the Institute of Certified Financial Planners Masters Retreat, October 1999.

“Toward a Better Understanding of Real Options: A Weighted Average Discount Rate Approach,” at the 1999 Financial Management Association Conference, the 1999 European Financial Management Association Conference, and the 1999 Multinational Finance Society Conference.

“Just-In-Time Mathematics: Integrating the Teaching of Finance Theory and Mathematics,” (with Gordon Prichett) at the 1999 Financial Management Association Conference.

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**Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA**

“Alternative Dow Investments for the Individual Investor: Diamonds, Synthetics, and the Real Thing,” at the 1999 Academy of Financial Services Convention.

“Evidence of Yield Burning in Municipal Refundings” at Financial Management Association Convention, October 1997; Government Finance Officers Association, 1997; and Northeast Regional Convention of the National Association of State Treasurers, 1997.

“Teaching the Strong-Form Efficient Market Hypothesis” at Conference on Classroom Experiments in the Teaching of Economics at University of Virginia, September 1995.

“Efficient Consolidation of Implied Standard Deviations,” (with Shaikh Hamid) at Midwest Finance Association, March 1995.

“A Test of Intertemporal Averaging of Implied Volatilities,” (with Shaikh Hamid) at Eastern Finance Association, April 1995.

“Taking Advantage of Volatility: Non-linear Forecasting and Options Strategies,” (with Hassan Ahmed) at Chicago Board of Trade / Chicago Board Options Exchange Conference on Risk Management, February 1992.

“Immunizing Against Interest Rate Risk Using the Macaulay Duration Statistic: An Assessment,” (with Don Smith) at Japan-U.S. Conference on Financial Strategies in the 1990s, Osaka, Japan, August 1991.

“The Hull and White Implied Volatility,” at American Finance Association Convention, December 1990.

REVIEWED ARTICLES AND BOOKS FOR:

Journal of Economic Education
Journal of Forensic Economics
Journal of Risk
Financial Review
North American Case Research Association
Financial Management
Journal of Business
Journal of Money, Credit and Banking
Quarterly Review of Economics and Finance
Blackwell
Prentice Hall
Southwestern Publishing

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**Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA**

COURSES TAUGHT

Valuation (MBA)
Investments (MBA and Executive)
Equity Markets (MBA)
Fixed Income Analysis (Undergraduate and MBA)
Babson College Fund (Undergraduate and MBA)
Options and Futures (Undergraduate)
Advanced Derivative Securities (MBA)
Corporate Finance (MBA and Executive)
Financial Management (MBA)
Risk Management (MBA)
Corporate Financial Strategy (MBA)
Integrated Management (Undergraduate)
Cross-Functional Management (Integrated curriculum, Undergraduate)
Continuous-Time Finance (Doctoral)
Portfolio Theory / Management Information Systems (Executive)
Quantitative Methods for Investment Management (Undergraduate and MBA)
Introduction to Derivatives Securities (Executive)
International Finance (Executive)

TEACHING AWARDS

Reid Teaching Award, Washington University, Olin School of Business, 1993-94.

SELECT LIST OF MEDIA CITATIONS

"Bankers Rigging Municipal Contract Bids Admit to Cover-Up Lies," by William Selway and Martin Z. Braun, *Bloomberg Markets Magazine*, November 24, 2010.

"Hospital Move Presents Buy-Out Groups with New Risks," by Francesco Guerra, Christopher Bowe, and Rebecca Knight, *Financial Times*, July 15, 2006.

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"Downer: Stock Market Takes Another Dive," by John Chesto, *Boston Herald*, July 23, 2002.

Exhibit-2

**Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA**

“Banks, Developers, Are Main Beneficiaries,” [editorial column] by Steven Feinstein, *The Boston Globe*, March 31, 2002, p. C4.

“Washington Investing: What Michael Saylor is Really Worth,” by Jerry Knight, *The Washington Post*, March 6, 2000.

“IBM Retools Pensions,” by Stephanie Armour, *USA Today*, May 4, 1999.

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“L.A. Authority Study Shows Rampant Yield Burning Abuse,” by Michael Stanton, *The Bond Buyer*, April 22, 1997.

“Dispute Over Yield Burning Dominates GFOA Session,” by Michael Stanton, *The Bond Buyer*, January 29, 1997.

“Men Behaving Badly (Yield Burning),” *Grants Municipal Bond Observer*, January 24, 1997.

“Municipal Bond Dealers Face Scrutiny,” by Peter Truell, *The New York Times*, December 17, 1996.

“Iowa Market Takes Stock of Presidential Candidates,” by Stanley W. Angrist, *The Wall Street Journal*, August 28, 1995.

“Looking for Clues in Options Prices,” by Sylvia Nasar, *The New York Times*, July 18, 1991.

“For Fed, A New Set of Tea Leaves,” by Sylvia Nasar, *The New York Times*, July 5, 1991.

Exhibit-2

**Curriculum Vitae
Steven P. Feinstein, Ph.D., CFA**

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Finance Association
Boston Security Analysts Society
Chartered Financial Analyst Institute
Financial Management Association
Foundation for Advancement of Research in Financial Economics (founding member)
North American Case Research Association

Exhibit-3

**Steven P. Feinstein, Ph.D., CFA
Testimony in the Last 4 Years**

In Re Apollo Group, Inc. Securities Litigation
United States District Court
District of Arizona
Lead Case No. CV 04-2147-PHX-JAT
Deposition Testimony
February 2007
Trial Testimony
December 2007

In Re: Motorola Securities Litigation
United States District Court
For The Northeastern District of Illinois
Eastern Division
No. 03 C 00287
Deposition Testimony
March 2007

In Re Veeco Instruments, Inc. Securities Litigation
United States District Court
Southern District of New York
Case No.: 7:05-md-1695 (CM)
Deposition Testimony
June 2007

Ellington Overseas Partners. LTD. and Ellington Long Term Fund. LTD. vs.
HSBC Securities (USA) Inc.
United States District Court
Southern District of New York
06-CV-02353
July 2007

Carpenters Health & Welfare Fund, *et al.* vs. The Coca-Cola Company
United States District Court
Northern District of Georgia
Atlanta Division
File No. 1:00-CV-2838-WBH
Deposition Testimony
August 2007

Exhibit-3

**Steven P. Feinstein, Ph.D., CFA
Testimony in the Last 4 Years**

In Re Schering-Plough Corporation Securities Litigation
United States District Court
For The District of New Jersey
Master File No. 01-CV-0829 (KSH/MF)
Deposition Testimony
September 2007

In Re ProQuest Company Securities Litigation
United States District Court
Eastern District Of Michigan
Master File No. 2:06-cv-10619
Deposition Testimony
May 2008

Marvin Overby, *et al.* vs. Tyco International, Ltd., *et al.*
United States District Court
District of New Hampshire
Case No. 02-CV-1357-B
Deposition Testimony
May 2008

Franz Schleicher, *et al.* vs. Gary C. Wendt, *et al.*
(Conseco, Inc.)
United States District Court
Southern District of Indiana
Indianapolis Division
No. 02 CV 1332 DFH-TAB
Deposition Testimony
July 2008

In Re The Mills Corporation Securities Litigation
United States District Court
For The Eastern District of Virginia
Alexandria Division
Civil Action No. 1:06-cv-00077 (LO/TJR)
Deposition Testimony
September 2008

In Re Cooper Companies, Inc. Securities Litigation
United States District Court
Central District of California, Southern Division
No. SACV-06-00169-CJC(RNBx)
Deposition Testimony
October 2008 and December 2009

Exhibit-3

**Steven P. Feinstein, Ph.D., CFA
Testimony in the Last 4 Years**

Debra Hall, *et al.* vs. The Children's Place Retail Stores, Inc., *et al.*
United States District Court
Southern District of New York
Civil Action No. 1:07-cv-08252-SAS
Deposition Testimony
December 2008

Robert Ross, *et al.* vs. Abercrombie & Fitch Company, *et al.*
United States District Court
Southern District of Ohio
Eastern Division
No. 2:05-cv-00819-EAS-TPK
Deposition Testimony
February 2009

In Re Comcast Corporation ERISA Litigation
United States District Court
Eastern District of Pennsylvania
Master File No. 2:08-cv-00773-HB
Deposition Testimony
July 2009

John Richard Beach, *et al.* vs. Healthways Inc., *et al.*
United States District Court
Middle District of Tennessee
Nashville Division
Civil Action No. 3:08-cv-00569
Deposition Testimony
July 2009

EXHIBIT FILED UNDER SEAL

Pursuant to the October 15, 2010 Stipulation and Order for the Production and Exchange of Confidential Information entered by the Court (ECF No. 270), Exhibit 4 to the Expert Report of Professor Steven P. Feinstein, Ph.D., CFA is subject to Lead Plaintiffs' accompanying request for leave to file motion papers under seal.